

Abstract

Surface drawing is described as a medium which provides direct control over the creation of a wide range of intricate shapes. Surfaces are created by moving a hand, instrumented with a special glove, through space in a semi-immersive 3D display and interaction environment. Intricate forms can be created using intuitive motions. The design space can be freely explored during the modeling process without the need to plan the construction of the final shape. In particular it supports unconstrained erasing and buildup of new geometry. An incremental Cookie Cutter algorithm, a construction method for triangulated meshes is described which allows the user to freely grow, join, and erase surfaces based on hand motions.

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